

REMARKS

Applicant requests reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks.

Claims 1-74 and 77-84 are pending in this application, with Claims 1, 37, 38, 74, 77, and 79-83 being independent. Claims 75 and 76 have been cancelled without prejudice to or disclaimer of the subject matter contained therein. Claims 1-8, 10-16, 18-21, 25-33, 35-39, 44, 47, 50-51, 55-58, 69, 70, and 72-74 have been amended. Claims 77-84 are newly presented. No new matter is believed to have been added.

The specification has been objected to for not containing section headings. The specification has been amended to include section headings. No new matter has been added, and reconsideration and withdrawal of the objection are respectfully requested.

Claims 1-76 have been rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. This rejection is respectfully traversed.

Applicant submits that the original independent apparatus Claims 1 and 37 recite the features of a machine which has a practical application in the technological arts. For example, the analysing means of original Claim 1 forms part of a specific machine that can produce determined parameter values representative of generated signals. Further, Applicant submits that original independent method Claims 38 and 74 recite features directed to method steps for manipulation of data representing physical objects or activities and require the measurement of physical objects or activities to be transformed outside of an apparatus into data.

For example, in original Claim 38, signal values representative of signals generated by a plurality of signal sources can be said to represent sound waves, or other generated signals, that must be transformed into a form that a computer can use. Additionally, the method as originally claimed produces a concrete, tangible, and useful result. For example, original Claim 38 recites analysing derived samples of parameter values to determine parameter values representative of signals generated by signal sources.

Nevertheless, without conceding the propriety of the formal rejection, the claims have been amended herein to further clarify the useful, concrete, and tangible nature of the claimed invention.

As discussed in the specification, the invention relates to a system which can receive a signal representative of a combination of signals and which can process the received combination to derive parameters that are representative of at least one of the signals. In the preferred embodiment, the system can determine respective parameter values representative of each signal generated by each of a plurality of sources. In this way, the system can isolate one of the received signals or, in the preferred embodiment, can separate all of the signals that are received. The claims are now directed to systems where the signals are representative of acoustic signals.

As discussed in the specification, current techniques for separating signals employ arrays of sensors and use adaptive beam forming techniques in order to isolate the signal from one source. However, these beam forming techniques suffer from a number of problems. Firstly, they can only isolate signals from sources that are spatially distinct. The beam forming system does not work if the sources are relatively close together since the “beam” which it uses

has a finite resolution. Further, with the beam forming techniques, it is also necessary to know the directions from which the signals of interest will arrive and also the spacing between the sensors in the sensor array.

Applicant submits that the amended claims reflect the technical area addressed and the solution proposed. In particular, amended claim 1 is now directed to an acoustic signal processing computer apparatus in order to further clarify that the invention is limited to the technological arts. Claim 1 now also recites one or more receivers for receiving a set of signal values representative of a combination of a plurality of acoustic signals generated by a plurality of acoustic signal sources.

A memory is also provided for storing a predetermined function which gives, for a given set of received signal values, a probability density for parameters of a respective signal model, each of which is assumed to have generated respective one of the acoustic signals represented by the received signal values. Claim 1 further recites an applicator operable to apply the set of received signal values to the stored function to generate the probability density function and a processor operable to process the probability density function to derive samples of parameter values from the probability density function. An analyser analyses at least some of the derived samples of parameter values to determine parameter values that are representative of the acoustic signal generated by at least one of the sources.

A useful, concrete, and tangible result of the claimed invention is, therefore, the processing of a set of signal values representing a combination of acoustic signals to derive parameter values representing at least one of those acoustic signals. In this way, at least one of the signals in the received combination of signals can effectively be extracted or isolated from the other signals.

Similar amendments have been made to independent Claims 37, 38, and 74, and Applicant submits, for similar reasons, that those claims are also directed to a method or apparatus that provides a useful, concrete, and tangible result. Applicant submits that Claims 1-74 recite statutory subject matter, and respectfully requests withdrawal of the § 101 rejection.

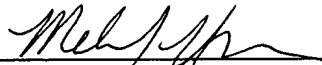
Claims 1-76 have been rejected under 35 U.S.C. § 112, first paragraph, in view of the § 101 rejection. Applicant submits that the § 101 rejection has been overcome, and requests reconsideration and withdrawal of the § 112, first paragraph rejection.

Applicant notes that independent apparatus Claims 1 and 37 have been amended to remove “means plus function” language, and that new independent Claims 77 and 79 correspond to amended Claims 1 and 37, but using “means plus function” language. New Claims 80 to 83 are directed to computer readable media storing computer executable instructions corresponding to the amended independent method claims. New Claim 84 is directed toward the receiver of original apparatus Claim 29. The new claims are submitted to recite statutory subject matter.

Applicant submits that the present application is in condition for allowance. Favorable consideration and passage to issue at the Examiner’s earliest convenience are requested.

Applicant's undersigned attorney may be reached in Washington, D.C. by telephone at (202) 530-1010. All correspondence should continue to be directed to the below-listed address.

Respectfully submitted,


Attorney for Applicant
Melody H. Wu
Registration No. 52,376

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200
MHW:ayr:llp
168944 v 1